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WEEKLY OVERSIGHT REPORT

CH2MHILL

**Weekly Summary Report
USEPA Oversight, Sauget Area 2, Sauget, IL
WA No. 224-RXBF-05XX / Contract No. 68-W6-0025****Week Ending Friday, October 15, 2004**

This report summarizes the Interim Remedial Action (IRA) work conducted by Solutia and its contractors from October 9 through October 15, 2004 at Site R, Sauget Area 2. The current IRA fieldwork consists of site preparation, backfill, trench cleaning, and cap construction.

Contractors Onsite

Inquip Associates Inc. (barrier wall construction contractor)
PSI (geotechnical testing subcontractor)
Aerotek (air monitoring subcontractor)
URS (primary consultant for Solutia)
Lowry Electric (electrical contractor to Solutia)

Work Performed This Week

Work at Site R continued with 2,910 cubic yards of backfill placed into the open trench in the northern portion of the site over 6 work days during the week. Barrier wall capping and site grading activities continued in the southern portion of Site R. Slurry stabilization commenced during the week with Portland cement added to three test cells in the containment berm on top of the landfill.

By the end of the week, the remaining open trench decreased to approximately 793 feet in length. Trench excavation is 100 percent complete, and backfill activities were approximately 89 percent complete at the end of the reporting period.

Groundwater Migration Control System (GMCS)

The river elevation decreased slightly during the week from 383.29 feet above mean sea level (amsl) on October 8 to 382.82 feet amsl on October 15. The GMCS returned to operating under the "no-wall" lookup table conditions on October 11, after pumping since September 16 at a flow rate of approximately 2,000 gallons per minute (gpm) which was generally at the maximum system pumping capacity. The three extraction wells pumped groundwater throughout the week, with a combined system flow rate on October 15 of 1,300 gpm.

URS conducted an evaluation of the eight barrier wall piezometers and their dedicated transducers during the week. Water levels measured by the transducers were compared to water levels measured manually with a water level indicator. Water samples were collected from the piezometers and the Mississippi River and then submitted to an analytical laboratory for specific gravity testing. Results from these tests are pending. URS is evaluating the potential that groundwater with a specific gravity deviating from 1.00 has skewed the transducer-recorded water elevations in the piezometers around the barrier wall. During the next reporting period, a second round of comparative head analyses will be conducted (i.e., manual versus transducer-recorded water levels) after all transducers have been raised from a

measurement depth of 100 feet below ground surface (bgs) to 60 feet bgs. Solutia is making this adjustment in an effort to mitigate potential measurement errors stemming from variances in specific gravity with depth.

Table 1 shows the river and piezometer water elevations measured on October 15 (3:00 PM). The barrier wall has been constructed adjacent to piezometer pairs P2, P3, and P4, and backfill is approximately 80 percent in place adjacent to piezometer pair P1. As indicated in Table 1, measurements were not made in five of the eight piezometers. Reasons for these data gaps are summarized below:

- P1: Transducer at P1N has been offline since October 6, when slurry was discovered inside the piezometer. On October 15, construction activities around P1S caused damage at ground surface to the piezometer, and the well was subsequently repaired. Slurry was discovered in piezometer P1S during the week at approximately 65 feet bgs, and the transducer was removed from the well upon that finding. Both transducers at the P1 pair will be reinstalled next week above the measured slurry elevation inside the piezometers.
- P2: Transducer at P2W was taken offline on October 12, 2004.
- P3: Transducer at P3W has failed and has been offline since October 6. A new transducer will be installed in the well during the next reporting period.
- P4: Transducer at P4W was taken offline on October 12, 2004.

TABLE 1
River and Piezometer Water Elevations – October 15, 2004 (15:00)

	Elevation (ft above mean sea level)
River Level	382.82
Piezometer 1S – inside wall (northern-most pair)	NM
Piezometer 1N – outside wall (northern-most pair)	NM
Piezometer 2E – inside wall (north-central pair)	384.28
Piezometer 2W – outside wall (north-central pair)	NM
Piezometer 3E – inside wall (south-central pair)	383.29
Piezometer 3W – outside wall (south-central pair)	NM
Piezometer 4E – inside wall (southern-most pair)	383.30
Piezometer 4W – outside wall (southern-most pair)	NM

NM = Not Measured

Increase pumping rate?

{ An increase in water elevation of 1 to 2 feet was observed in the four piezometers located inside the barrier wall shortly after the decrease in the extraction well flow rate. Prior to its halt in operation on October 15, P1S recorded a water elevation between 2 to 3 feet lower than the river. Piezometers P2E, P3E, and P4E generally showed water levels lower than the river during the week, indicating an inward gradient toward Site R. However, on October 15 as the river level decreased, these piezometers showed water levels lower than the river elevation. The gradient across the barrier wall was not evaluated during the week due to the transducer }

issues documented above. Data were not available to view the water levels appropriately for the piezometers located outside of the barrier wall.

Barrier Wall Construction

Inquip has completed excavation of the barrier wall to total depth, and during the week the backfill toe moved to the northeast terminus of the barrier wall alignment at station 37+93. During the week, the open trench decreased by approximately 280 linear feet as backfill 'daylighted' to ground surface at station 30+00. The remaining open trench extends from station 30+00 to station 37+93, approximately 793 feet in length.

The Liebherr 853 hydraulic clamshell was utilized during the week for trench cleaning prior to backfill placement. The Liebherr 855 mechanical clamshell and Koehring 1266 trackhoe remain onsite awaiting demobilization.

During the week, the depth of the open trench was measured daily. Table 2 summarizes the trench profile that was measured on the morning of October 15. On Graph 1, the current trench profile is depicted in comparison with the trench profile measured on October 8. Graph 2 shows the overall progress of the barrier wall construction.

Barrier Wall Cap Construction and Site Grading

Inquip continued the barrier wall cap construction during the week, with capping activities progressing to near station 24+00. The cap is being constructed by placing a 5-mil polyethylene plastic sheeting and Tensar UX1400HS geogrid over the top of the wall, 3 feet below grade. Subsequently, 3 feet of work pad material is being placed over the top of the barrier wall, with a bulldozer compacting each lift. A metallic tape marker was placed between the two lifts of work pad material to mark the alignment of the barrier wall.

Grading of the southern portion of Site R continued during the week, with rigs working to return the site and drainageways to their original elevations. Restoration of the drainage swale between the landfill area and western portion of Site R began during the week near station 11+00.

Slurry

No fresh slurry was mixed or utilized during the week. Trench slurry samples were collected from the top and the bottom of the trench and were tested for viscosity, density (unit weight), filtrate loss, pH and sand content. Analysis of trench slurry samples either met the specifications or satisfied the quality targets. Trench slurry was recirculated during the week near the northeast trench terminus through the desander unit in order to improve the slurry sand content. Excess trench slurry was pumped from the open trench at station 37+93 to the north containment berm on top of the landfill.

Slurry stabilization tests began during the week in cells constructed within the southern containment area on top of the landfill. Trench slurry was pumped into the cells, which are approximately 30 by 50 feet. A Portland cement mixture was added to each cell and stirred into the slurry by a trackhoe. Inquip will continue to monitor the test cells as the slurry hardens.

Spoils Handling

During the week, spoils were transferred from the temporary stockpile on top of the landfill and the southern portion of Site R (where grading activities were occurring) to the backfill mix pad near station 30+00.

Backfill and Trench Cleaning

During the week, Inquip mixed and placed approximately 2,910 cubic yards of backfill material into the open trench. Backfill operations took place on six days during the reporting period. Backfill spoils were mixed with approximately two percent of dry bentonite and slurry as necessary to meet quality specifications.

Backfill was tested for unit weight, slump and moisture content. The unit weight for backfill placed this week ranged from 122.5 to 131 pounds per cubic foot (pcf). Slump results varied between 3 and 5 inches and the moisture content result ranged between 18 and 23.4 percent. Tests on the backfill mixture to be conducted offsite by Mueser-Rutledge and Golder laboratories included permeability and gradation.

Stormwater

Rain throughout the week caused minor pooling of stormwater at the site. Stormwater was pumped during the week to the north modutank.

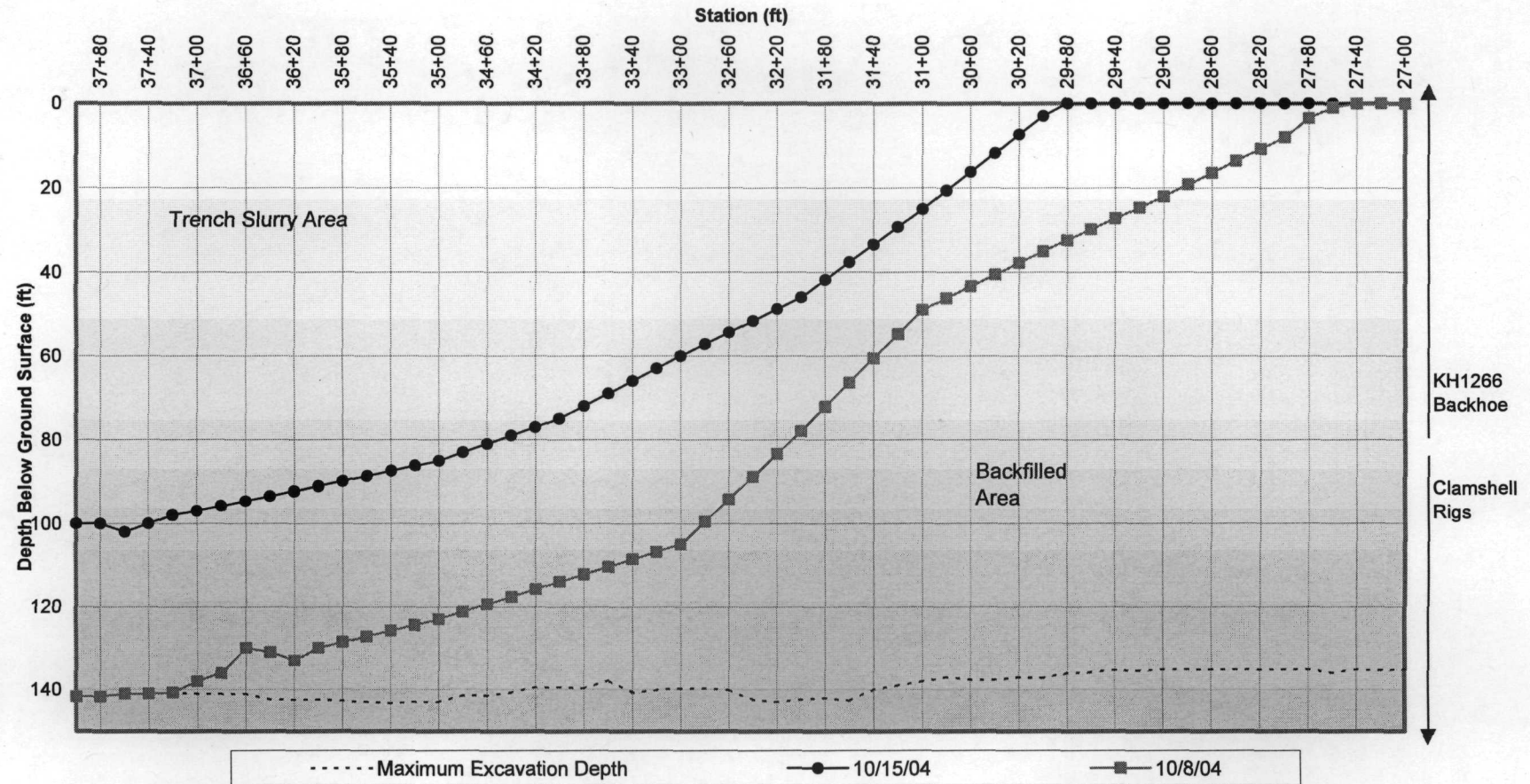
Other Activities

Aerotek performed the routine air monitoring conducted at Site R on six days during the reporting period.

TABLE 2
Trench Profile (Downrigger Measurements) for the Barrier Wall Trench –October 15, 2004 (AM)

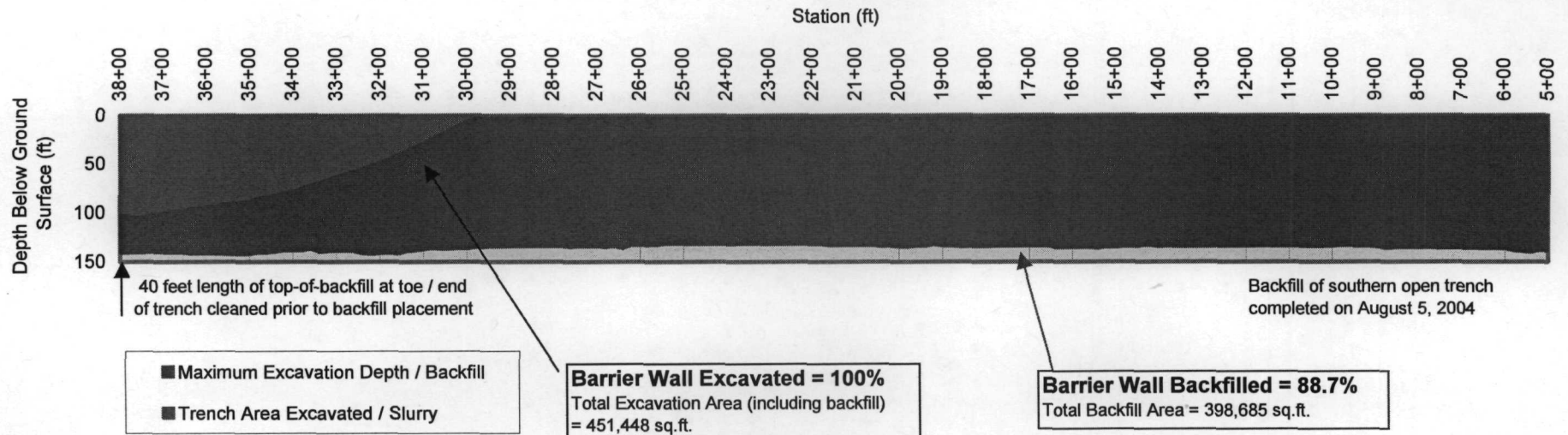
Station ID	Depth to bottom (ft below ground surface)
30+00	3
31+00	25
32+00	46
33+00	60
34+00	75
35+00	85
36+00	91
37+00	97
37+20	98
37+40	100
37+60	102
37+80	100
37+93	100

Graph 1 - Weekly Barrier Wall Construction Progress - Open Trench Segment
October 8 through October 15, 2004



Note: Data plotted for the week through measurements on 10/8/04 and 10/15/04.
 Some data points are interpolated between the available data points where trench depths were read.

Graph 2 - Barrier Wall Construction Progress by October 15, 2004 (AM)



Note: Data plotted for the week through AM measurements on 10/15/04

Photos from the week ending October 15, 2004



Slurry was pumped from the trench to the north containment pond on top of the landfill (top - large pond). Slurry was subsequently transferred into small cells within the south containment berm, where three slurry stabilization tests occurred during the week by stirring in a Portland cement mixture. (October 15, 2004)



Spoils were transported from the containment berm to the backfill mix pad. Stormwater pooled on top of the cells where the stabilization tests occurred. (October 15, 2004)